

IN THE DRAWINGS

The attached drawing sheets include changes to Figures 2 and 14. These sheets, which include Figures 2 and 14, replace the original sheets including Figures 2 and 14.

Attachment: Replacement Sheets

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the present amendment and in light of the following discussion, is respectfully requested.

Claims 9-25 are pending. In the present amendment, Claims 9, 12, 13, 15, and 16 are currently amended and new Claims 17-25 are added. Support for the present amendment can be found in the English language translation of the original specification, for example, at page 16, line 31 to page 17, line 1, at page 18, line 3 to page 19, line 20, and in Figures 2-4. Thus, it is respectfully submitted that no new matter is added.

In the outstanding Office Action, Claims 9-15 were rejected under 35 U.S.C. § 101; and Claims 9-16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Shropshire (International Publication No. WO 02/059801) in view of Alibozek (non-patent document titled "Smart Software Builds a Better Harness").

The specification and Figures 2 and 14 are hereby amended to correct some minor informalities. It is respectfully submitted that no new matter is added.

In response to the rejection under 35 U.S.C. § 101, it is noted that independent Claim 9 is hereby amended to recite, in part, "displaying, in a first view on a display." Thus, the method recited in amended Claim 9 transforms a display. Additionally, Claim 15 is hereby rewritten in independent form to recite "a computer readable storage medium." Further, Claim 15 also recites "displaying, in a first view on a display." Support for these amendments can be found in the English language translation, for example, at page 16, line 31 to page 17, line 1, at page 18, lines 3-10, and in Figures 2-4. Thus, it is respectfully submitted that no new matter is added.

Accordingly, it is respectfully submitted that independent Claims 9 and 15, and all claims dependent thereon recite patentable subject matter. Thus, it is respectfully requested that the rejection of Claims 9-15 under 35 U.S.C. § 101 be withdrawn.

In response to the rejection under 35 U.S.C. § 103(a), Applicants respectfully request reconsideration of this rejection and traverse this rejection, as discussed below.

Amended Claim 9 recites:

A method for synthesis of a routing, comprising:

a) obtaining parameters of:

different configurations of service variants and calculator variants and a percentage occurrence of the configurations, a sum of proportions of the configurations being considered equal to one,

cost characteristics of components stored and weighted as a function of their respective installation proportions, and

partial or complete mapping of the service variants onto the calculator variants;

b) identifying valid routings;

c) evaluating routing cost of the valid routings for each configuration;

d) determining the valid routing that minimizes a mean, weighted by the installation proportions of each configuration, of the routing costs for each configuration;

e) displaying, in a first view on a display, a plurality of zones into which the service variants and the calculator variants are grouped, wherein the first view includes a guide to indicate how the plurality of zones are situated relative to one another; and

f) displaying, in a second view on the display, the valid routing that minimizes the mean of a single zone of the plurality of zones.

Accordingly, the method for synthesis of a routing recited in amended Claim 9 includes displaying a first and a second view on a display. In the first view, the routing is broken up into a plurality of zones, as can be seen in the exemplary embodiment shown in Figure 2. Additionally, a guide is included in the first view to indicate how the plurality of

zones are situated relative to one another. In the second view, one of the zones is shown in detail such that at least the valid routing of the zone is shown, as can be seen in the exemplary embodiment shown in Figure 3. It is respectfully submitted that the cited references do not disclose or suggest every feature recited in amended Claim 9.

Shropshire describes a design system that creates data relating to a modular wiring harness.² The system described in Shropshire includes a 3D design system 30 that defines the spatial orientation of a wiring harness with regard to the structure of the automobile in which it is to be used.³ Shropshire also describes that definitions of the electrical connections and components are used to produce a 2D harness drawing 32.⁴

However, it is respectfully submitted that Shropshire does not disclose or suggest “e) displaying, in a first view on a display, a plurality of zones into which the service variants and the calculator variants are grouped, wherein the first view includes a guide to indicate how the plurality of zones are situated relative to one another; and f) displaying, in a second view on the display, the valid routing that minimizes the mean of a single zone of the plurality of zones,” as recited in amended Claim 9.

Instead, as can be seen in Figures 1-4 of Shropshire, the harnesses are not shown in a plurality of zones, and no guide is provided to indicate how the plurality of zones are situated relative to one another. Although Shropshire describes a 3D design system 30 that defines the spatial orientation of a wiring harness with regard to the structure of the automobile, Shropshire does not disclose or suggest whether this 3D design system 30 produces a display. Additionally, even assuming there is a display, the spatial orientation may be represented by a table of measurements from various components. Thus, the 3D design system 30 is not inherently displayed in the claimed plurality of zones. Additionally, Shropshire shows

² See Shropshire, at page 5, lines 7-15.

³ See Shropshire, at page 32, lines 20-22 and in Figure 4.

⁴ See Shropshire, at page 32, lines 22-25 and in Figure 4.

individual harnesses, but does not display how the valid routing is laid out over an entire zone.

Alibozek describes software for building a wiring harness.⁵ Alibozek describes displaying the wiring harness design in schematics, nailboard drawings, and 3D displays of virtual prototypes.⁶

However, it is respectfully submitted that Alibozek also does not disclose or suggest “e) displaying, in a first view on a display, a plurality of zones into which the service variants and the calculator variants are grouped, wherein the first view includes a guide to indicate how the plurality of zones are situated relative to one another; and f) displaying, in a second view on the display, the valid routing that minimizes the mean of a single zone of the plurality of zones,” as recited in amended Claim 9.

Instead, Alibozek describes that the individual harnesses can be shown in 3D and that nailboard drawings can show where cables run, but Alibozek does not describe that the routing of the entire wiring is broken up into groups and displayed as a plurality of zones. Additionally, Alibozek does not describe a guide to indicate how the plurality of zones are situated relative to one another. Further, Alibozek does not describe an alternative view showing the valid routing for an entire single zone.

Accordingly, it is respectfully submitted that the combination of Shropshire and Alibozek does not disclose or suggest every feature recited in amended Claim 9. Thus, it is respectfully requested that the rejection of Claim 9, and all claims dependent thereon, as unpatentable over Shropshire in view of Alibozek be withdrawn.

As discussed above, Claim 15 is hereby rewritten in independent form. Amended Claim 15 recites, in part, a computer readable storage medium, comprising “e) displaying, in a first view on a display, a plurality of zones into which the service variants and the calculator

⁵ See Alibozek, at the title and subtitle.

⁶ See Alibozek, at page 32, lines 20-22 and in Figure 4.

variants are grouped, wherein the first view includes a guide to indicate how the plurality of zones are situated relative to one another; and f) displaying, in a second view on the display, the valid routing that minimizes the mean of a single zone of the plurality of zones.”

Accordingly, in view of the above discussion of Shropshire and Alibozek with respect to Claim 9, it is respectfully submitted that the combination of Shropshire and Alibozek does not disclose or suggest every feature recited in amended Claim 15. Thus, it is respectfully requested that the rejection of Claim 15 as unpatentable over Shropshire in view of Alibozek be withdrawn.

Amended Claim 16 recites, in part, a device for synthesis of a routing, comprising “e) a display configured to display, in a first view, a plurality of zones into which the service variants and the calculator variants are grouped, wherein the first view includes a guide to indicate how the plurality of zones are situated relative to one another, and, in a second view, the valid routing that minimizes the mean of a single zone of the plurality of zones.”

Accordingly, in view of the above discussion of Shropshire and Alibozek with respect to Claim 9, it is respectfully submitted that the combination of Shropshire and Alibozek does not disclose or suggest every feature recited in amended Claim 16. Thus, it is respectfully requested that the rejection of Claim 16 as unpatentable over Shropshire in view of Alibozek be withdrawn.

New Claims 17-25 are added by the present amendment. Support for Claims 17-25 can be found in the English language translation of the original specification, for example, at page 18, line 3 to page 19, line 20, and in Figures 2-4. Thus, it is respectfully submitted that no new matter is added.

It is noted that new Claims 17-19 depend on Claim 9, new Claims 20-22 depend on Claim 15, and new Claims 23-25 depend on Claim 16. Accordingly, it is respectfully

submitted that new Claims 17-25 patentably define over the cited references for at least the reasons discussed above with respect to Claims 9, 15, and 16.

Further, new Claim 17 recites, in part, that “the displaying in the first view does not show the valid routings of the service variants and the calculator variants.” As discussed above, it is respectfully submitted that the cited references do not disclose or suggest displaying the plurality of zones. Accordingly, it is also respectfully submitted that the cited references do not disclose or suggest that the display of the zones does not show the valid routings of the service variants and the calculator variants. Therefore, it is respectfully submitted that new Claim 17, and Claims 20 and 23 which recite similar features, further patentably define over the cited references.

New Claim 18 recites, in part, that “the displaying in the second view includes prohibited subzones through which valid routings do not pass.” Although the cited references describe user-defined constraints, it is respectfully submitted that the cited references do not disclose or suggest displaying prohibited subzones through which valid routings do not pass. Therefore, it is respectfully submitted that new Claim 18, and Claims 21 and 24 which recite similar features, further patentably define over the cited references.

New Claim 19 recites, in part, that “in the first view, the display includes a first compass as the guide, and in the second view, the display includes a second compass to indicate how to orient the single zone.” As discussed above, it is respectfully submitted that the cited references do not disclose or suggest the claimed guide. Accordingly, it is also respectfully submitted that the cited references do not disclose or suggest that the first view and the second view each include a different compass. Therefore, it is respectfully submitted that new Claim 19, and Claims 22 and 25 which recite similar features, further patentably define over the cited references.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for formal allowance. A notice of allowance is earnestly solicited.

Respectfully submitted,

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